



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,432	04/30/2001	Neil Benjamin	LAM-P0808	4586

7590

09/18/2002

David B. Ritchie
Thelen Reid & Priest LLP
P. O. Box 640640
San Jose, CA 95164-0640

EXAMINER

PAIK, SANG YEOP

ART UNIT

PAPER NUMBER

3742

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

50

Office Action Summary

Applicati n No.

09/846,432

Applicant(s)

BENJAMIN ET AL.

Examiner

Sang Y Paik

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 12-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 33-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: Figure 3, Figure 4 and Fig 5.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Art Unit: 3742

2. During a telephone conversation with Mr. Terry Lo on 9/10/02 a provisional election was made with traverse to prosecute the invention of Figure 1, claims 1-11, 33-38. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

4. Figure 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

5. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 6 and 7 on page 15 have been renumbered 4 and 5. It is also noted to claim 28 depends on a subsequent claim 38. A dependent claim should refer to a preceding claim. Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya et al (US 6,084,215) in view of Kuibira et al (US 6,365,879).

Furuya et al discloses the structure claimed including a temperature controlled base (92), a thermal insulator (93) made of polymer, a flat support (91) with a heater embedded therein. However, Furuya et al does not teach that the thermal insulator has the thermal conductivity of less than about 1W/mK.

Kuibira et al shows a wafer holder with a heater embedded therein with a thermal insulator having the thermal conductivity of 10W/mK or less. Kuibira et al teaches that the insulator having such thermal conductivity prevent heat loss and thus providing a good thermal insulation. In view of Kuibira et al, it would have been obvious to one of ordinary skill in the art to adapt Furuya et al with the thermal insulator having the claimed thermal conductivity to thermally insulate the heater and thus prevent undesired heat loss.

With respect to claims 2 and 3, Furuya et al shows a thermal conductor (2) disposed between the flat support and a work piece, and the thermal conductor further comprises a

Art Unit: 3742

nitrogen gas provided by the gas inlet (22) to introduce gas thereto. While Furuya et al does not show the gas to be helium gas, it would have been obvious to one of ordinary skill in art to introduce nitrogen or helium gas to provide the heat transfer gas that can provide good thermal conductivity between the workpiece and the heating support such as the flat support.

6. Claims 5-9 and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya et al in view of Kuibira et al as applied to claims 1-4 above, and further in view of Mahawili (US 5,059,770) or Carman et al (US 5,294,778)

Furuya et al in view of Kuibira et al discloses all the structure and method claimed except the heater having a plurality of planar heating elements.

Mahawili or Carman et al shows a workpiece heating apparatus having a plurality of heating elements with a plurality of sensor that are independently controlled to measure the respective heating zones. In view of Mahawili or Carman et al, it would have been obvious to one of ordinary skill in the art to adapt Furuya et al, as modified by Kuibira et al, with a plurality of heating elements and sensors to control the respective heating zones to achieve the desired heating temperature across the heating plate.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya et al in view of Kuibira et al as applied to claims 1-4 above, and further in view of Weber (US 4,518,848).

Furuya et al in view of Kuibira et al discloses all the structure claimed except the heater being an etched foil.

Weber shows an electric heating element in the formed of an etched foil. In view of Weber, it would have been obvious to one of ordinary skill in the art to use an etched foil as an

Art Unit: 3742

alternative heating formation to provide for the heating element on a heating plate to produce the desired high temperature and uniform heating across the heating plate.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya et al in view of Kuibira et al as applied to claims 1-4 above, and further in view of Yoshida et al (US 6,080,970).

Furuya et al in view of Kuibira et al discloses all the structure claimed except the support comprising a high temperature non-electrically conductive material.

Yoshida et al shows a plane heater having a heating embedded in a support member comprising ceramic material. In view of Yoshida et al, it would have been obvious to one of ordinary skill in the art to adapt Furuya et al, as modified by Kuibira et al, with the support member having the high-temperature non-electrically conductive material to not only electrically insulate the electrically resistive heating element but also produce high temperature necessary to sufficiently treat the workpiece.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kholodenko et al (US 6,310,755), Nozawa et al (US 5,539,179) and Muka (US 5,854,468).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

Art Unit: 3742

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Walberg can be reached on 703-308-1327. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.



Sang Y Paik
Primary Examiner
Art Unit 3742

syp
September 13, 2002